

### **AMENDMENTS TO THE CLAIMS**

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double brackets indicating deletions.

#### **LISTING OF CLAIMS**

1. (Currently Amended) A method of facilitating recovery of nuclear fuel from a fuel pool, comprising:

providing a graphical user interface;

selectively populating a loading map by a user which represents fuel bundles residing in at least one fuel pool, wherein the graphical user interface includes one or more loading tools for selecting, sorting, filtering, and moving a ~~filtered~~-fuel pool table to a reload fuel table, the selecting, sorting, filtering, and moving being based on one or more fuel attributes; and

placing the fuel bundles in the at least one fuel pool according to the selected loading map.

2. (Currently Amended) The method of claim 1, further comprising:

storing at least one fuel pool database, the fuel pool database including a list of at least a portion of the fuel bundles residing in the fuel pool; and wherein

selecting, by a user via the graphical user interface, ~~selects~~-fuel bundles from the fuel pool database to populate the loading map.

3. (Currently Amended) The method of claim 2, wherein the fuel pool database indicates the one or more fuel attributes for the listed fuel bundles.
4. (Currently Amended) The method of claim 3, wherein the one or more fuel attributes include at least one of exposure, a previous cycle in which the fuel bundle was used, k infinity, bundle product line, initial uranium loading, initial gadolinium loading, number of axial zones, historical fuel cycle numbers previous to a most recent for which the fuel bundle was used, a corresponding reactor core in which the fuel bundle was resident for each of the historical fuel cycles, accumulated residence time, and fuel bundle pedigree, which is a parameter that reflects usability of the fuel bundle for continued reactor operation.
5. (Previously Presented) The method of claim 2, wherein the graphical user interface includes one or more fuel pool database management tools for aiding in the selection process.
6. (Previously Presented) The method of claim 5, wherein  
the fuel pool database indicates one or more attributes for the listed fuel bundles; and  
the at least one of the fuel pool database management tools includes filtering the listed fuel bundles according to at least one of the attributes.
7. (Previously Presented) The method of claim 5, wherein  
the fuel pool database indicates one or more attributes for the listed fuel bundles; and  
the at least one of the fuel pool database management tools includes sorting the listed fuel bundles according to one of the attributes.

8. (Canceled)
9. (Previously Presented) The method of claim 1, wherein the graphical user interface further allows the user to selectively populate the loading map with different types of fresh fuel bundles.
10. (Currently Amended) The method of claim 9, further comprising:  
storing at least one fresh bundle type database, the fresh bundle type database including a list of fresh bundle types; and wherein  
selecting, by a user via the graphical user interface, ~~selects~~ fresh fuel bundle types from the fresh bundle type database to populate the loading map.
11. (Original) The method of claim 10, wherein the fresh bundle type database indicates one or more attributes for the listed fresh fuel bundle types.
12. (Previously Presented) The method of claim 11, wherein the attributes include at least one of mechanical design, average enrichment, number of gadolinium pins, weight percent of gadolinium, axial zones, and k infinity.
13. (Previously Presented) The method of claim 10, wherein the graphical user interface includes one or more fresh bundle type database management tools for aiding in the fresh fuel bundle type selection process.
14. (Previously Presented) The method of claim 13, wherein

the fresh bundle type database indicates one or more attributes for the listed fresh fuel bundle types; and

the at least one of the fresh bundle type database management tools includes filtering the listed fresh fuel bundle types according to at least one of the attributes.

15. (Previously Presented) The method of claim 13, wherein

the fresh bundle type database indicates one or more attributes for the listed fresh fuel bundle types; and

the at least one of the fresh bundle type database management tools includes sorting the listed fresh fuel bundle types according to one of the attributes.

16. (Previously Presented) The method of claim 9, wherein the graphical user interface includes one or more fresh bundle type loading tools.

17. (Previously Presented) The method of claim 1, wherein the at least one of the fuel pools is a fuel pool for more than one reactor core.

18. (Currently Amended) The method of claim 1, wherein a user selectively populates ~~the graphical user interface selectively populate a loading map with fuel bundles residing in~~ more than one fuel pool via the graphical interface.

19. (Currently Amended) A method of recovering nuclear fuel from a fuel pool, comprising:

first selectively populating a loading map which represents fuel bundles stored in at least one fuel pool, wherein the selectively populating step is performed via a graphical user interface that includes one or more loading tools for selecting, sorting, filtering, and moving a ~~filtered-fuel pool table~~ to a reload fuel table, the selecting, sorting, filtering, and moving being based on one or more fuel attributes, and placing the fuel bundles in the at least one fuel pool according to the selected loading map.

20. (Canceled)

21. (Currently Amended) The method of claim 19, further comprising:

accessing a fuel pool database that includes a list of at least a portion of the fuel bundles residing in the fuel pool; and wherein

the first selectively populating step ~~allows~~ includes a user ~~to selecting~~ fuel bundles from the fuel pool database to populate the loading map.

22. (Currently Amended) The method of claim 21, wherein the fuel pool database indicates the one or more fuel attributes for the listed fuel bundles.

23. (Currently Amended) The method of claim 22, wherein the one or more fuel attributes include at least one of exposure, a previous cycle in which the fuel bundle was used, k infinity, bundle product line, initial uranium loading, initial gadolinium loading, number of axial zones, historical fuel cycle numbers previous to a most recent for which the fuel bundle was used, a corresponding reactor core in which the fuel bundle was resident for

each of the historical fuel cycles, accumulated residence time, and fuel bundle pedigree, which is a parameter that reflects usability of the fuel bundle for continued reactor operation.

24. (Original) The method of claim 21, further comprising:

using one or more fuel pool database management tools to aid in the selectively populating step.

25. (Currently Amended) The method of claim 24, wherein

the fuel pool database indicates one or more attributes for the listed fuel bundles; filtering, using a filter fuel pool database management tool, the listed fuel bundles according to at least one of the attributes; and

the first selectively populating step ~~allows~~ includes the user ~~to selecting~~ from the filtered fuel bundles to populate the loading map.

26. (Currently Amended) The method of claim 24, wherein

the fuel pool database indicates one or more attributes for the listed fuel bundles; and sorting, using a sorting fuel pool database management tool, the listed fuel bundles according to at least one of the attributes; and

the first selectively populating step ~~allows~~ includes the user ~~to selecting~~ from the sorted fuel bundles to populate the loading map.

27. (Original) The method of claim 21, further comprising:

using one or more loading tools to aid in the selectively populating step.

28. (Original) The method of claim 21, further comprising:

second selectively populating the loading map with different types of fresh fuel bundles.

29. (Currently Amended) The method of claim 28, further comprising:

accessing at least one fresh bundle type database, the fresh bundle type database including a list of fresh bundle types; and wherein

the second selectively populating step ~~allows~~includes the user ~~to selecting~~ fresh fuel bundle types from the fresh bundle type database to populate the loading map.

30. (Original) The method of claim 19, wherein at least one of the fuel pools is a fuel pool for more than one reactor core.

31. (Original) The method of claim 19, wherein the selectively populating step selectively populates a loading map with fuel bundles stored in more than one fuel pool.

32. (Currently Amended) A method, comprising:

using nuclear fuel bundles residing in at least one fuel pool in a new loading map for a nuclear reactor, according to selections made using a graphical user interface having one or more loading tools for selecting, sorting, filtering, and moving a ~~filtered~~ fuel pool table to a reload fuel table, the selecting, sorting, filtering, and moving being based on one or more fuel attributes, and placing the fuel bundles in the at least one fuel pool according to the selected loading map.

33. (Canceled)

34. (Canceled)